CLAIM:

1. (Previously Presented) An industrial control system for controlling an industrial process comprising:

a plurality of control devices each of which contributes to the controlling of the controlled process, wherein each control device includes a respective web server program;

a web access interface including an Internet interface and a control network interface, wherein the control network interface is coupled to the plurality of control devices by way of a network, and wherein the Internet interface is capable of being coupled to a remote device via the Internet, the web access interface executing:

an Internet communications program that receives an Internet signal having socket API data and formatted in accordance with an Internet transport layer protocol and an Internet network layer protocol, wherein the Internet communications program extracts the socket API data from the Internet signal and provides a socket API signal including the socket API data; and

a control network communications program that receives the socket API signal and transmits a network signal based upon the socket API signal to an appropriate one of the control devices in accordance with the Internet signal, wherein the socket API data is included within the network signal and processed by the respective web server program at the one of the control devices, and wherein the network signal is not formatted in accordance with the Internet transport layer protocol and an Internet network layer protocol.

2. (Previously Presented) The industrial control system of claim 1, wherein the control network communications program further receives an additional network signal from another of the control devices and provides an additional socket API signal based upon the additional network signal, wherein both the additional network signal and the additional socket API signal include application-level information; and

wherein the Internet communications program receives the additional socket API signal and formats the additional socket API signal in accordance with

the Internet transport layer protocol and the Internet network layer protocol for transmission over the Internet to an additional remote device.

3. (Previously Presented) The industrial control system of claim 1, wherein the control network communications program encodes the socket API data from the socket API signal with a second protocol different from the Internet transport layer protocol and an Internet network layer protocol, whereby the control devices can provide web functionality without the overhead of an Internet transport layer protocol and an Internet network layer protocol.

4. (Original) The industrial control system of claim 1, wherein the Internet communications program includes a first software program for processing an Internet media access control protocol with respect to the Internet signal.

5. (Original) The industrial control system of claim 4, wherein the Internet media access control protocol is one of an Ethernet protocol, a Token Ring protocol, a FDDI protocol, an ATM protocol, a SONET protocol, an X.25 protocol, and a frame relay protocol.

6. (Original) The industrial control system of claim 4, wherein the Internet communications program includes a second software program for processing an IP protocol with respect to the Internet signal, wherein the processing includes obtaining an IP address.

7. (Original) The industrial control system of claim 6, wherein the Internet communications program includes a third software program for processing a TCP protocol with respect to the Internet signal.

8. (Previously Presented) The industrial control system of claim 1, wherein the web server program implements at least one of an HTTP, an FTP, an SMTP, a Telnet command, a DNS command, and a WINS command based upon the socket API data.

9. (Original) The industrial control system of claim 1, wherein the control network communications program includes a first program for formatting the socket API signal in accordance with an internal media access protocol.

10. (Previously Presented) The industrial control system of claim 9, wherein the internal media access control protocol is selected from a group consisting of a DeviceNet protocol, a ControlNet protocol, and an Ethernet protocol.

11. (Original) The industrial control system of claim 9, wherein the control network communications program includes a second program for formatting the socket API signal, as formatted in accordance with the internal media access protocol, also in accordance with a control network protocol.

12. (Original) The industrial control system of claim 1, wherein the web access interface includes a table for converting IP address information to control network addresses corresponding to the plurality of control devices, and wherein, upon receiving the Internet signal at the web access interface, the web access interface determines the appropriate one of the control devices to receive the socket API data based upon an IP address within the Internet signal.

13. (Original) The industrial control system of claim 12, wherein the table converts at least one of IP addresses to control network addresses and IP addresses plus port addresses to control network addresses.

14. (Original) The industrial control system of claim 1, wherein the Internet communications program and the control network communications program are comprised within a single translation module.

15. (Original) The industrial control system of claim 1, wherein the control devices are control nodes each including a respective processor.

16. (Original) The industrial control system of claim 15, wherein the respective processors are programmable logic controllers.

17. (Original) The industrial control system of claim 1, wherein the control devices are I/O modules including processing devices, and the web access interface includes a programmable logic controller.

18. (Previously Presented) A web access interface for implementation in an industrial control system having a plurality of control devices, wherein each of the control devices has a respective web server program, the web access interface comprising:

a first means for receiving and transmitting Internet signals from and to the Internet;

a second means for receiving and transmitting network signals from and to the plurality of control devices; and

a third means for converting the Internet signals into the network signals, and for converting the network signals into the Internet signals, in order to allow for ~~the~~ communication of signals between the plurality of control devices and at least one remote device coupled to the first means by way of the Internet,

wherein the Internet signals are formatted in accordance with an IP protocol and the network signals are not formatted in accordance with the IP protocol.

19. (Original) The web access interface of claim 18, wherein the second means includes at least one port, and wherein the one port includes at least one communication link coupling the port with one of the control devices.

20. (Original) The web access interface of claim 19, wherein the third means includes a set of programs allowing for processing and formatting in accordance with an Internet media access control protocol, an additional Internet communications protocol, a control network protocol, and an internal media access control protocol.

21. (Original) A method of communicating information between a plurality of control devices within an industrial control system and a remote device coupled to the industrial control system by way of the Internet, wherein each of the control devices has a respective web server program, the method comprising:

receiving a request signal at a web access interface, wherein the request signal has been provided over the Internet from the remote device;

processing an Internet media access control protocol and a TCP/IP protocol with respect to the request signal by way of an Internet communications program of the web access interface, in order to extract socket API data in the form of a socket API signal;

determining an appropriate destination control device from among the plurality of control devices;

formatting the socket API signal in accordance with a control network protocol and an internal media access control protocol to produce a network signal; and

delivering the network signal to the appropriate destination control device so that the socket API data can be processed by the respective web server program.

22. (Original) The method of claim 21, further comprising:

providing an additional network signal from one of the plurality of control devices to the web access interface, wherein the additional network signal includes additional socket API data;

processing the additional network signal with respect to the control network protocol and the internal media access control protocol to produce an additional socket API signal;

formatting the additional socket API signal in accordance with the TCP/IP protocol and the Internet media access control protocol to generate an Internet signal; and

providing the Internet signal onto the Internet for transmission to an additional remote device.

23. (Original) The method of claim 22, wherein the Internet signal is transmitted as a series of separate data packets.